

Attorney Docket No. 4910.00011

Patent

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Claims 1-20 are pending in the present application.

Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Claim 1 is objected to because of informalities.

Claims 1, 3-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,721,269 of Cao et al. ("Cao").

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of U.S. Patent No. 5,241,534 of Omuro et al. ("Omuro").

Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner states that:

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed subject "the at least one of the second switching node and the third switching nodes is at an origin of both the working path and the protection path" is not supported by the original specification."

The above reference is from the Office Action mailed on March 16, 2006, p. 2. Claims 1-3 have been canceled. In view of the cancellation, the Applicants respectfully submit that the Examiner's rejection is now moot.

Claim 1 is objected to because of informalities. Specifically, the Examiner states that:

[P]lease correct the claimed subject matter "a first switching node" on step b to -the first switching node-to avoid confusion for they are the same subject matter.

The above reference is from the Office Action mailed on March 16, 2006, p. 3. Claim 1 has been canceled. In view of the cancellation, the Applicants respectfully submit that the Examiner's objection is now moot.

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Claims 1, 3-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao.

Specifically, the Examiner states that:

Regarding claim 1, Cao discloses an multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data from the source to the destination w3can be carried, a method of initiating an MPLS protection path switch over from the working path to the protection path comprising the steps of:

- detecting a failure on the working path at a first switching node (a router along the path that first detects the failure) of the working path (routers along the path monitor the path and report the failure to the source node col. 3 lines 39-46, 48-51);

- transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path (if a failure is detected, a router that first detects the failure propagates the physical level maintenance to the source and sink routers, col. 3 lines 48-51);

- routing data by at least one of the second switching node and a third switching node of the working path from the working path to the protection path upon the receipt of the failure notification message at least one of: the second switching node (the source router) an a third switching node (the sink node) of the working path, wherein the at least one of the second switching node and the third switching node is at an origin of both the working path and the protection path (when the source and sink routers are alerted to the path failure, the sink router switches to the secondary path for communications. The source router may then establish another explicitly routed communications path to act as a new secondary path, see col. 3 lines 53-57).

The above reference is from the Office Action mailed on March 16, 2006, pp. 3-4.

Claims 1-3 and 7-11 have been canceled. In view of the cancellation, the Applicants respectfully submit that the Examiner's rejection is now moot with respect to Claims 1-3 and 7-11. However, the Applicants respectfully submit that Cao does not render remaining claims Claims 4-6 and 12-20 unpatentable under 35 U.S.C. 102(e).

Cao discloses a router that employs explicit routing protocols to establish a plurality of explicitly routed label switched paths between source and sink routers. (Cao, Abstract) A sink router selects one of these explicitly routed paths as a primary path and communicates along that

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path. (Cao, Abstract) Upon a failure in a path selected as a primary path, a secondary path is instantaneously selected as the new primary path. (Cao, Abstract) In the event of a path failure, it is the sink router that selects the secondary path. (Cao, col. 2, lines 40-41)

Cao does not teach or suggest routing data, by a switching system, from the working path to the protection path upon receipt of a failure notification message at the switching system, wherein the switching system is at the origin of both the working and protection paths and is upstream to the failure. Throughout the specification, Cao teaches against switching by a switching node at the origin of both the working and protection paths. An instance of this is in the Summary, where Cao discloses “[i]n response to the physical layer failure indication, the failure is propagated and the exit router selects an alternative, previously established, path for immediate use.” (Cao, col. 2, lines 64-67) Another instance of this is in the description of FIG. 1, where Cao discloses that for a primary path S-A-B-E and a secondary path S-C-D-E, upon a failure of the primary path S-A-B-E, an egress router (router E) switches to the secondary path S-C-D-E. (Cao, col. 6, lines 5-16)

In contrast, currently amended Claim 4 is limited to:

4. A multi-protocol label switching (MPLS) system protection switch comprising:
a first data input port into which MPLS data is received from a data source;
a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path;
a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path; and
a second data input port adapted to connect to a path that follows the MPLS working path for receiving a failure notification associated with a failure;
whereby data received at the data input port from the data source can be selectively routed from the second MPLS switching system to the third MPLS switching system by a node at an origin of both the MPLS working path and the MPLS protection path and upstream to the failure. (Emphasis added)

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Independent Claims 6 and 12 include similar limitations. Claims 5, 7-11, 13-20 directly or indirectly depend on independent Claims 4, 6, and 12.

Claims 1-3 and 7-11 are canceled. Claims 21-29 are added. Support for new Claims 21-29 are found in the specification, figures, claims and abstract as originally filed.

In view of the arguments set forth herein, it is respectfully submitted that the applicable rejections have been overcome. Accordingly, it is respectfully submitted that Claims 4-6 and 12-29 should be found in condition for allowance.

If there are any additional charges, please charge them to our Deposit Account Number 500-654.

Respectfully submitted,

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By:



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